Approval of Large Cutblocks to Control Mountain Pine Beetle in the Robson Valley

Complaint Investigation 010354

FPB/IRC/69

May 2002

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The Investigation

This report deals with a complaint that large clearcuts, approved to address a mountain pine beetle outbreak, contravened the maximum cutblock size requirements of the *Forest Practices Code of British Columbia Act* and its regulations (the Code).

The complaint was submitted by the Fraser Headwaters Alliance (the complainant) in July 2000. The complainant believes that the district manager approved more harvesting than necessary to address a mountain pine beetle outbreak. The complainant is concerned that the large clearcuts will change hydrological flows and cycles, resulting in increased soil instability, erosion and harm to fish habitat.

The Board addressed the following issues in the investigation:

1. Were appropriate measures taken to control the spread of mountain pine beetle?
2. Were the cutblocks larger than allowed by the Code?
3. Was the approval of clearcutting as the method of harvesting the large cutblocks reasonable?

The Board also examined a related issue identified during the investigation as a potential concern:

4. Did the opportunity for the public to review the large cutblocks comply with the Code?

The Board did not assess the impact of the cutblocks on hydrology, soil stability and fish habitat. That would require collecting baseline information on those values and long-term monitoring, both beyond the Board's role.

The report discusses decisions and submissions made on behalf of the Ministry of Forests (MOF) by a district manager, an acting district manager and a new district manager. For simplicity, this report collectively refers to these individuals as the district manager.

Background

The complaint concerns the Holmes River watershed, 25 kilometres east of McBride, BC. The Holmes River is the second largest producer of chinook salmon in the Robson Valley Forest District. The watershed has some large openings from severe windthrow, wildfires, and harvesting to control spruce beetle.

MOF first detected mountain pine beetle in the watershed in 1995. MOF's Small Business Forest Enterprise Program (SBFEP) planned to control the outbreak by helicopter-logging

five cutblocks, each less than one hectare, in 1997. That logging did not happen because MOF decided that larger cutblocks were needed to control the beetle.

In June 1997, the licensee (Zeidler Forest Industries Ltd.) agreed to take over harvesting. The licensee proposed amending its 1997-2002 forest development plan (FDP) to harvest six cutblocks in 1998, described as cutting permit (CP) 524. The cutblocks totalled 43 hectares. The district manager approved the amendment but the licensee, concerned about harvesting economics, decided not to harvest the cutblocks as scheduled. Instead, the licensee pheromone-baited the area and disposed of the baited trees.

The licensee planned to harvest CP 524 the next year, prior to the beetle flight in 1999. In its 1998-2003 FDP, It proposed to log 47 hectares in six cutblocks. The licensee again decided to not harvest as scheduled because of economic considerations, and once again pheromone-baited and disposed of the baited trees.

In the fall of 1998, the Alberta forest service expressed concerns that the planned cutblocks were inadequate to stop the beetle from spreading into an adjacent wilderness area in Alberta. That winter, the forest services of BC and Alberta drafted a memorandum of understanding (MOU) for controlling the beetle. The draft MOU was signed by MOF but not by the Alberta forest service.

In May 1999, Zeidler Forest Industries sold its forestry operations to West Fraser Timber Ltd. Zeidler continued to manage the license on behalf of West Fraser, while West Fraser sought a purchaser for the McBride operation. In the summer of 2000, the McBride operation was sold to McBride Forest industries Ltd.

In July 1999, the licensee proposed amending its 1998-2003 FDP to harvest additional areas damaged by, or under threat from, mountain pine beetles. The proposal expanded the area of CP 524 to over 500 hectares. The district manager rejected the proposal, finding that one cutblock included an area unnecessary for beetle control or salvage. The licensee adjusted and resubmitted the amendment, and completed a timber cruise in early August 1999. The district manager approved the amendment in late August 1999. The approval allowed the licensee to harvest 517 hectares, using a combination of cable, aerial and ground-based yarding systems. The licensee assigned highest priority to harvesting severely attacked pine types and lowest priority to spruce types.

The licensee started building roads to the cutblocks in the fall of 1999 and finished logging in the spring of 2001.

Discussion

Were appropriate measures taken to control the spread of mountain pine beetle?

The licensee completed harvesting six years after MOF first detected the beetle. Five beetle flights occurred during that time, assuming the normal life cycle of one beetle flight per year. The area proposed for harvesting increased from 5 hectares to over 500 hectares. The Board's opinion is that the delay in harvesting by the SBFEP and the licensee contributed to the spread of the beetle. The delay in harvesting was contrary to the intent of senior MOF officials, expressed in the draft MOU, to harvest before the beetle flight in 1999.

Under section 106 of the *Forest Practices Code of British Columbia Act* (the Act), a district manager can order a licensee to undertake measures within a specified time to control or dispose of insects. If the licensee fails to comply with the order, the district manager can carry out the work, recover the costs and levy a penalty. In this case, the district manager did not order the licensee to harvest in 1998 because of fire hazard. Fire hazard was high over much of the province in the summer of 1998 and a large fire burned a nearby watershed. The Board accepts that the immediate fire concern prevented the district manager from ordering harvesting to start in the summer of 1998.

The district manager did not to order the licensee to harvest prior to the beetle flight in 1999 because he thought that doing so would force the closure of the licensee's McBride division. He said the licensee was in immediate danger of closing its doors because of large financial losses. He thought that making an order would not achieve what was intended--effective beetle control. The Board acknowledges the district manager's opinion that the licensee was in financial difficulty, but believes that the district manager's prime responsibility is to ensure sound management of the forest resource. Given that the licensee had already failed to harvest in 1998, strong action was needed to ensure that it do so the following year. The district manager could have ordered the licensee to harvest, harvested through the SBFEP, or requested another licensee to harvest.

The Board notes that, prior to logging, actions for controlling the beetle were limited to pheromone-baiting. The district manager said that pheromone baiting was consistent with the *Bark Beetle Management Guidebook*, which describes baiting as a holding action until more aggressive sanitation harvesting and other control options can be applied. However, the spread of the beetle since detection in 1995 demonstrates that baiting was ineffective for controlling the beetle. Continued reliance on baiting was not adequate for controlling the beetle in the circumstances.

The district manager's opinion is that the licensee designed and implemented harvesting to promptly remove the highly-infested areas as early as possible, where feasible and practical, without compromising safety. The Board finds that the licensee logged some of the low-priority spruce types before finishing logging the high-priority pine types. The spruce types, which were located on the lower slopes and were more accessible, may have been more

cost-effective and practical to harvest first. However, that approach allowed another beetle flight from the remaining high-priority pine types before harvesting was completed. Some of the low-priority areas consisted of up to 98 percent spruce. The Board's opinion is that logging was not done in a way that would maximize pine beetle control, which should have been the overriding consideration.

In summary, the Board finds that the delay in harvesting contributed to the continuing spread of the beetle, resulting in progressively larger areas requiring harvesting to recover damaged timber and control further spread. Pheromone baiting was inadequate for controlling the beetle in the circumstances. The district manager should have more fully explored tools and options for addressing the beetle, including ordering the licensee to harvest prior to the beetle flight in 1999. The Board finds that both the district manager and the licensee did not take appropriate measures to control the mountain pine beetle.

Were the cutblocks larger than allowed by the Code?

The complaint about the extent of harvesting involves two separate issues. One issue is the size of the cutblocks, discussed in this section of the report. The other is the approval of clearcutting as the harvest method for the cutblocks, discussed later in the report.

The Code restricts cutblock size in the Prince George Forest Region to a maximum of 60 hectares, but allows larger cutblocks for several reasons. Section 11(3)(b)(i)(a) of the *Operational Planning Regulation* (OPR) allows a district manager to approve an amendment to an FDP that includes cutblocks exceeding the maximum size if "harvesting is being carried out to recover timber that was damaged by fire, insects, wind or other similar events and wherever possible, the cutblock incorporates structural characteristics of natural disturbance." The Board interprets that section 11(3)(b)(i)(a) allows a district manager to approve large cutblocks for the purpose of recovering damaged timber and to control the spread of forest insects.

The district manager used that section to approve three cutblocks that exceeded 60 hectares in the licensee's amendment to its 1998-2003 FDP. The cutblocks are block B (98 hectares), block E (282 hectares) and block P (99 hectares). After flying over the area, he decided that dead and dying trees were evenly distributed over the entire area of the three large cutblocks. He considered that Alberta was pressuring British Columbia to stop the beetle from spreading. He concluded that all of the large cutblocks were needed to address the extent of the infestation and to address Alberta's concerns.

However, evidence shows that the cutblocks included areas harvested for purposes other than to address the beetle infestation. Prior to the district manager approving the amendment, the licensee wrote the district manager:

> ...we have made the decision that as long as we were entering into harvesting in the Holmes (Beaver) drainage that we would fit this activity in as part of our proposed second pass activity in that watershed. With this in

> mind, we set about planning the cutting permits around the beetle infested areas to ensure that we harvested the beetle wood, but that we also found a sufficient volume of more desirable timber to accommodate the processing needs of our mill in McBride.

The district manager interpreted this statement to mean that the proposed cutblocks would achieve two purposes--the primary purpose of salvaging infested pine stands, and a secondary purpose of logging spruce stands for economic benefit. The Board agrees that the primary objective should have been to address mountain pine beetle. However, the area of "more desirable timber" corresponds to a spruce type, timber type 10, according to the current licensee. Timber type 10 occurred in each of the three large cutblocks, covering 102 hectares (21 percent) of their total area. Timber cruise results show that timber type 10 consisted of only 1.4 percent pine. The Board's opinion is that harvesting timber type 10 would have had minimal effect on mountain pine beetle control. Timber type 10 was at the outside edges of the cutblocks, making it operationally possible to exclude those areas. Including timber type 10 was therefore not consistent with the objective of addressing mountain pine beetle. The cutblocks were therefore larger than allowed under section 11(3)(b)(i)(a) of the OPR. Approval of the three large cutblocks under that section did not comply with the Code.

The Board further notes that cutblock E included other timber types that had a limited pine component. Timber type 8 (23 hectares) had 21 percent pine, and timber type 3 (seven hectares) was 12 percent pine. The pine within those timber types was predominantly healthy, with few dead trees from previous attacks, and no green-attacked trees. Timber type 4 (nine hectares) had 21 percent dead timber and no green attack. The Board questions including those timber types within large cutblocks approved for the purposes of beetle salvage and control.

Was the approval of clearcutting the three large cutblocks reasonable?

The Board has decided that approval of the three large cutlocks did not comply with the Code because including timber type 10 was not consistent with the objective of addressing mountain pine beetle. Therefore, the approval of clearcutting timber type 10 was obviously not reasonable. The Board further considered whether approval of clearcutting for the remaining areas of the cutblocks, excluding timber type 10, was reasonable.

The district manager approved clearcutting of the three large cutblocks because of operational considerations. He determined that most of the beetle-attacked pine was mixed throughout the area. He believed that the steep terrain required cable high-lead yarding because alternative methods, such as helicopter yarding, would be prohibitively expensive. His opinion was that cable yarding does not easily lend itself to partial harvest systems. He therefore approved clearcutting the three large cutblocks, with reserves for wildlife-tree patches and riparian areas.

The Board interprets that the Code permits harvesting healthy trees within a large cutblock approved under section 11(3)(b)(i)(a) of the OPR, provided that doing so is necessary to access damaged trees or for sanitation purposes. In this case, the three large cutblocks (excluding timber type 10) consisted of 64 percent non-pine species, intermixed with pine. Accessing the widely distributed pine on mostly steep terrain required removing a significant portion of the healthy, non-pine component. However, the Board believes that, given the timber types, options other than clearcutting were possible. The district manager does not appear to have given adequate consideration to those alternatives to clearcutting. While this is a concern, the district manager's rationale does not provide the Board with enough information to know if the alternatives were feasible. Therefore, the Board cannot conclude whether it was reasonable for the district manager to approve clearcutting for the remaining areas of the cutblocks.

Did the opportunity for the public to review the large cutblocks comply with the Code?

The Code normally requires a licensee to provide the public with 60 days to review an FDP or amendment. That review period can be shortened to a minimum period of 10 days when the plan is for an "expedited major salvage operation." Expedited major salvage is timber harvesting that must be expedited to prevent the spread of insects, or to prevent significant reduction in the economic value due to deterioration in the quality of the timber.

The district manager approved the amendment for CP 524 as an expedited major salvage operation. The licensee made the amendment available for public review for a period of 10 days. The Board has decided that the large cutblocks included areas (timber type 10) not needed for timber salvage or beetle control. Those areas therefore do not relate to expedited major salvage. The expedited approval of those areas in the three large cutblocks therefore did not comply with the Code's requirements for review and comment.

Conclusions

1. In the Holmes watershed, both the district manager and the licensee failed to undertake appropriate measures to control mountain pine beetle. That contributed to increased beetle populations and resulted in the need to harvest progressively larger areas to recover damaged timber and control further beetle spread.

2. The three large cutblocks in CP 524 included at least 102 hectares of forest, consisting of timber type 10, where harvesting would not salvage damaged timber or control mountain pine beetle. This harvesting did not meet the criteria for cutblocks over 60 hectares allowed under section 11(3)(b)(i)(a) of the OPR. Approval of the three large cutblocks under that section therefore did not comply with the Code

3. The district manager's approval for clearcutting the extensive non-pine component of the large cutblocks was not based on adequate consideration of other harvesting

options. The Board does not have enough information to conclude whether it was reasonable for the district manager to approve clearcutting of these areas of the cutblocks.

4. The three large cutblocks included areas not necessary to salvage damaged timber or control the spread of the mountain pine beetle. The expedited approval of those areas therefore did not comply with the Code's requirements for public review and comment.

Commentary

The area proposed for harvesting to control mountain pine beetle in the Holmes River watershed expanded from 5 hectares in 1995 to over 500 hectares in 1999. The Board believes that such extensive harvesting would not have been required if the SBFEP and the licensee had taken more aggressive control action sooner, priorizing harvesting to first remove green-attacked timber. The Board's opinion is that the delay in harvesting and the eventual approach to harvesting were contrary to sound forest management.

The Board considered whether the three large cutblocks met the requirements of section 11(3)(b)(1)(a) of the OPR, which allows the Code's maximum cutblock size to be exceeded to recover damaged timber. Cutblocks exceeding the Code's maximum size can also be approved under section 11(3)(b)(ii) of the OPR if they are consistent with the structural characteristics and the temporal and spatial distribution of natural openings. In this case, the district manager did not approve the large cutblocks under 11(3)(b)(ii). The Board therefore did not assess whether the FDP amendment was consistent with temporal and spatial distribution of natural openings. However, the Board notes that the three large cutblocks are contiguous to over 300 hectares of plantations with trees up to 25 years old and eight metres tall, creating an 800-hectare area of recent clearcuts and young plantations. This comes close to, or may even exceed, the *Biodiversity Guidebook*'s recommendations for area of disturbance. The combined size of recent clearcuts and young plantations in this portion of the Holmes watershed is sufficiently large that potential adverse impacts on biodiversity and ecological processes are of concern to the Board.

Recommendations

In accordance with section 185 of the *Forest Practices Code of British Columbia Act*, The Board makes the following recommendations:

1. The Code provides ways for a district manager to ensure that infestations of forest insects are effectively addressed. One way is to make approval of a forest development plan subject to conditions, such as a date by which a licensee must log an outbreak area. The district manager can also, under section 106 of the Code, order a licensee to

undertake measures to deal with emerging forest health concerns. When considering whether to use these methods to address damaging agents, the Board recommends that district managers should consider the broad implications for all resource values and resource users.

2. District managers should provide a documented rationale when approving large cutblocks under section 11(3)(b)(i)(a) of the *Operational Planning Regulation* to address forest pests. The rationale should address the total extent of harvesting, including both the size of the cutblock and the extent of harvesting within the cutblock. The amount of detail provided in the rationale should be commensurate with the risk to forest resources from harvesting.